IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of

Group Art Unit: 1754

Inventor(s): Mills

App'n Ser. No.: 09/669,877

Examiner(s): Unknown

Filing Date: 09/27/2000

Title:

ONE ELECTRON ATOM CATALYSIS, INCREASED BINDING ENERGY

COMPOUNDS AND APPLICATIONS THEREOF

October 10, 2003

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Attached are PTO/SB/O8B forms listing the enclosed documents. Copies of the enclosed documents are attached to this Information Disclosure Statement and/or to the Attachments to the Response filed herewith.

Please accept this Information Disclosure Statement under Rule 97(c) and charge the requisite Rule 17(p) fee to our Deposit Account No. 50-0687 under Order No. 27462/62-226 for which purposes this paper is submitted in duplicate.

Applicant also attaches herewith a complete list of all his articles that have been submitted previously for consideration on PTO/SB/08A and B forms, which listed the dates the journals published the articles. Please note that the document numbers on this list do not correspond to the numbers in other lists submitted previously in other responses. Because of an oversight, Applicant's counsel only recognized recently that

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Applicant had posted his articles on the BlackLight's website

(www.blacklightpower.com) earlier than the listed publication date and these postings may constitute a publication under the patent laws and rules. If the U.S. Patent Office determines that the postings were publications, Applicant provides herewith on the attached list the internet publication dates for each such article identified as "web publication date."

This information disclosure statement is intended to be in full compliance with the rules, but should the Examiner find any part of its required content to have been omitted, prompt notice that effect is earnestly solicited, along with additional time under Rule 97(f), to enable Applicant to comply fully. Consideration of the foregoing and enclosures plus the return of a copy of the herewith PTO/SB/08A and B forms with the Examiner's initials in the left column per MPEP 609 along with an early action on the merits of this application are earnestly solicited.

Respectfully submitted, Manelli Denison & Selter PLLC

Βv

Jeffrey S. Melcher Reg. No.: 35,950

Tel. No.: (202) 261-1045 Fax. No.: (202) 887-0336

Customer No. 20736

Subatituta	Substitute for form 1449B/PTO			Complete if Known			
Substitute				Application Number	09/669,877		
INI	FORMATION	DI	SCLOSURE	Filing Date	09/27/2000		
ST	TATEMENT E	BY A	APPLICANT	First Named Inventor	Mills		
				Group Art Unit	1754		
	(use as many sheets as necessary)			Examiner Name	Unknown		
Sheet	1	of	6	Attorney Docket Number			

		OTHER PRIOR ART — NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.					
	97	R. L. Mills, P. Ray, B. Dhandapani, "Evidence of an Energy Transfer Reaction Between Atomic Hydrogen and Argon II or Helium II as the Source of Excessively Hot H Atoms in RF Plasmas," Contributions to Plasma Physics, submitted. (Web Publication Date: Sept. 26, 2003.) Attachment 97					
- 141.2 - 1 1	96	J. Phillips, C.K. Chen, R. L. Mills, "Evidence of the Production of Hot Hydrogen Atoms in RF Plasmas by Catalytic Reactions Between Hydrogen and Oxygen Species," J. Phys. D., submitted. (Web Publication Date: Sept. 12, 2003.) Attachment 96					
	95	R. L. Mills, P. Ray, B. Dhandapani, "Excessive Balmer Line Broadening of Water-Vapor Capacitively-Coupled RF Discharge Plasmas" IEEE Transactions on Plasma Science, submitted. (Web Publication Date: Aug. 18, 2003.) Attachment 95					
	94	R. L. Mills, "The Nature of the Chemical Bond Revisited and an Alternative Maxwellian Approach," Il Nuevo Cimento, submitted. (Web Publication Date: Aug. 6, 2003.) Attachment 94					
	93,	R. L. Mills, P. Ray, M. Nansteel, J. He, X. Chen, A. Voigt, B. Dhandapani, "Energetic Catalyst-Hydrogen Plasma Reaction Forms a New State of Hydrogen," in preparation. Attachment 93					
	92	R. L. Mills, P. Ray, M. Nansteel, J. He, X. Chen, A. Voigt, B. Dhandapani, Luca Gamberale, "Energetic Catalyst-Hydrogen Plasma Reaction as a Potential New Energy Source," European Physical Journal D, submitted. (Web Publication Date: June 6, 2003.) Attachment 92					
	91	R. Mills, P. Ray, "New H I Laser Medium Based on Novel Energetic Plasma of Atomic Hydrogen and Certain Group I Catalysts," J. Plasma Physics, submitted. Attachment 91					
	90	R. L. Mills, P. Ray, M. Nansteel, J. He, X. Chen, A. Voigt, B. Dhandapani, "Energetic Catalyst-Hydrogen Plasma Reaction as a Potential New Energy Source," Am. Chem. Soc. Div. Fuel Chem. Prepr., Vol. 48, No. 2, (2003). Attachment 90					

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Substitute for form 1449B/PTO				Complete if Known			
Substitute	5 101 101111 1443 <i>0</i> 71 10			Application Number	09/669,877		
INI	FORMATION	DI	SCLOSURE	Filing Date	09/27/2000		
ST	ATEMENT E	BY A	APPLICANT	First Named Inventor	Mills		
				Group Art Unit	1754		
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Sheet	2	of	6	Attorney Docket Number			

		OTHER PRIOR ART — NON PATENT LITERATURE DOCUMENTS	
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	89	R. Mills, P. C. Ray, R. M. Mayo, M. Nansteel, W. Good, P. Jansson, B. Dhandapani, J. He, "Hydrogen Plasmas Generated Using Certain Group I Catalysts Show Stationary Inverted Lyman Populations and Free-Free and Bound-Free Emission of Lower-Energy State Hydride," Technical Physics, submitted. Attachment 89	
	88	R. Mills, J. Sankar, A. Voigt, J. He, P. Ray, B. Dhandapani, "Role of Atomic Hydrogen Density and Energy in Low Power CVD Synthesis of Diamond Films," JACS, in preparation. Attachment 88	
<u></u>	87 J	R. Mills, B. Dhandapani, M. Nansteel, J. He, P. Ray, "Liquid-Nitrogen-Condensable Molecular Hydrogen Gas Isolated from a Catalytic Plasma Reaction," J. Phys. Chem. B, submitted. Attachment 87	
	86	R. L. Mills, P. Ray, J. He, B. Dhandapani, M. Nansteel, "Novel Spectral Series from Helium-Hydrogen Evenson Microwave Cavity Plasmas that Matched Fractional-Principal-Quantum-Energy-Level Atomic and Molecular Hydrogen," European Journal of Physics, submitted. (Web Publication Date: April 24, 2003.) Attachment 86	
	85	R. L. Mills, P. Ray, R. M. Mayo, "Highly Pumped Inverted Balmer and Lyman Populations," New Journal of Physics, submitted. Attachment 85	
	84	R. L. Mills, P. Ray, J. Dong, M. Nansteel, R. M. Mayo, B. Dhandapani, X. Chen, "Comparison of Balmer α Line Broadening and Power Balances of Helium-Hydrogen Plasma Sources," Plasma Sources Science and Technology, submitted. (<i>Web Publication Date: March 12, 2003.</i>) Attachment 84	
	83 E	R. Mills, P. Ray, M. Nansteel, R. M. Mayo, "Comparison of Water-Plasma Sources of Stationary Inverted Balmer and Lyman Populations for a CW HI Laser," J. Appl. Spectroscopy, in preparation. Attachment 83	
	82 1	R. Mills, J. Sankar, P. Ray, J. He, A. Voigt, B. Dhandapani, "Synthesis and Characterization of Diamond Films from MPCVD of an Energetic Argon-Hydrogen Plasma and Methane," J. of Materials Research, submitted. (Web Publication Date: May 7, 2003.) Attachment 82	

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Substitute	101 101111 14495/1 10			Application Number	09/669,877		
INI	FORMATION	DI	SCLOSURE	Filing Date	09/27/2000		
ST	ATEMENT E	BY A	APPLICANT	First Named Inventor	Mills		
				Group Art Unit	1754		
(use as many sheets as necessary)			s necessary)	Examiner Name	Unknown		
Sheet	3	of	6	Attorney Docket Number			

		OTHER PRIOR ART — NON PATENT LITERATURE DOCUMENTS						
Examiner Initials*	Cite No.							
	81 9	R. Mills, P. Ray, B. Dhandapani, W. Good, P. Jansson, M. Nansteel, J. He, A. Voigt, "Spectroscopic and NMR Identification of Novel Hydride Ions in Fractional Quantum Energy States Formed by an Exothermic Reaction of Atomic Hydrogen with Certain Catalysts," European Physical Journal: Applied Physics, submitted. (Web Publication Date: Feb. 21, 2003.) Attachment 81						
	80 /	R. L. Mills, "The Fallacy of Feynman's Argument on the Stability of the Hydrogen Atom According to Quantum Mechanics," Foundations of Phys., submitted. (Web Publication Date: Jan. 27, 2003.) Attachment 80						
	79,	R. Mills, J. He, B. Dhandapani, P. Ray, "Comparison of Catalysts and Microwave Plasma Sources of Vibrational Spectral Emission of Fractional-Rydberg-State Hydrogen Molecular Ion," Canadian Journal of Physics, submitted. Attachment 79						
	78 √	R. L. Mills, P. Ray, J. Dong, M. Nansteel, B. Dhandapani, J. He, "Vibrational Spectral Emission of Fractional-Principal-Quantum-Energy-Level Molecular Hydrogen," Bulletin of the Chemical Society of Japan, submitted. (Web Publication Date: Sept. 9, 2002.) Attachment 78						
	77	J. Phillips, R. L. Mills, X. Chen, "Water Bath Calorimetric Study of Excess Heat in 'Resonance Transfer' Plasmas," Journal of Applied Physics, submitted. (Web Publication Date: June 16, 2003.) Attachment 77						
	76	R. L. Mills, P. Ray, B. Dhandapani, X. Chen, "Comparison of Catalysts and Microwave Plasma Sources of Spectral Emission of Fractional-Principal-Quantum-Energy-Level Atomic and Molecular Hydrogen," Journal of Applied Spectroscopy, submitted. (Web Publication Date: Feb. 12, 2002.) Attachment 76						
-	75	R. L. Mills, P. Ray, B. Dhandapani, J. He, "Novel Liquid-Nitrogen-Condensable Molecular Hydrogen Gas," Acta Physica Polonica A, submitted. (<i>Web Publication Date: Oct. 29, 2002.</i>) Attachment 75						
	74	R. L. Mills, P. C. Ray, R. M. Mayo, M. Nansteel, B. Dhandapani, J. Phillips, "Spectroscopic Study of Unique Line Broadening and Inversion in Low Pressure Microwave Generated Water Plasmas," Physics of Plasmas, submitted. (Web Publication Date: June 18, 2003.). Attachment 74						

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PTO/SB/08B (Modified)

Substitute	Substitute for form 1449B/PTO			Complete if Known		
Substitute	9101101111114498/1110			Application Number	09/669,877	
INI	FORMATION	DI	SCLOSURE	Filing Date	09/27/2000	
	ATEMENT E			First Named Inventor	Mills	
				Group Art Unit	1754	
(use as many sheets as necessary)			s necessary)	Examiner Name	Unknown	
Sheet	4	of	6	Attorney Docket Number		

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	73	R. L. Mills, P. Ray, B. Dhandapani, J. He, "Energetic Helium-Hydrogen Plasma Reaction," AIAA Journal, submitted. (Web Publication Date: July 26, 2002.) Attachment 73	
	72	R. L. Mills, M. Nansteel, P. C. Ray, "Bright Hydrogen-Light and Power Source due to a Resonant Energy Transfer with Strontium and Argon Ions," Vacuum, submitted. Attachment 72	
	71 *	R. L. Mills, P. Ray, B. Dhandapani, J. Dong, X. Chen, "Power Source Based on Helium-Plasma Catalysis of Atomic Hydrogen to Fractional Rydberg States," Contributions to Plasma Physics, submitted. Attachment 71	
	70 F	R. Mills, J. He, A. Echezuria, B Dhandapani, P. Ray, "Comparison of Catalysts and Plasma Sources of Vibrational Spectral Emission of Fractional-Rydberg-State Hydrogen Molecular Ion," European Journal of Physics D, submitted. (Web Publication Date: Sept. 2, 2002.) Attachment 70	
	69	R. L. Mills, J. Sankar, A. Voigt, J. He, B. Dhandapani, "Spectroscopic Characterization of the Atomic Hydrogen Energies and Densities and Carbon Species During Helium-Hydrogen-Methane Plasma CVD Synthesis of Diamond Films," Chemistry of Materials, Vol. 15, (2003), pp. 1313–1321. (Web Publication Date: Dec. 31, 2002.) Attachment 69	
	68 V	R. Mills, P. Ray, R. M. Mayo, "Stationary Inverted Balmer and Lyman Populations for a CW HI Water-Plasma Laser," IEEE Transactions on Plasma Science, submitted. (Web Publication Date: Aug. 16, 2002.) Attachment 68	
	67	R. L. Mills, P. Ray, B. Dhandapani, J. He, "Extreme Ultraviolet Spectroscopy of Helium-Hydrogen Plasma," J. Phys. D, Vol. 36, (2003), pp. 1535–1542. (Web Publication Date: July 17, 2002.) Attachment 67	
	66 '	R. L. Mills, P. Ray, "Spectroscopic Evidence for a Water-Plasma Laser," Europhysics Letters, submitted. (Web Publication Date: Sept. 19, 2002.) Attachment 66	

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Signature	Considered		

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Substitute for form 1449B/PTO				Complete if Known		
Substitute	5 101 101111 1445B/F 10			Application Number	09/669,877	
INI	FORMATION	DI	SCLOSURE	Filing Date	09/27/2000	
STATEMENT BY APPLICANT (use as many sheets as necessary)				First Named Inventor	Mills	
				Group Art Unit	1754	
				Examiner Name	Unknown	
Sheet	5	of	6	Attorney Docket Number		

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, .,_	65	R. Mills, P. Ray, R. M. Mayo, "Spectroscopic Evidence for CW H I Lasing in a Water-Plasma," J. of Applied Physics, submitted. (Web Publication Date: Sept. 18, 2002.) Attachment 65	
	64	R. L. Mills, J. Sankar, A. Voigt, J. He, B. Dhandapani, "Low Power MPCVD of Diamond Films on Silicon Substrates," Journal of Vacuum Science & Technology A, submitted. (Web Publication Date: June 26, 2002.) Attachment 64	
	63 ^V	R. L. Mills, X. Chen, P. Ray, J. He, B. Dhandapani, "Plasma Power Source Based on a Catalytic Reaction of Atomic Hydrogen Measured by Water Bath Calorimetry," Thermochimica Acta, in press. (Web Publication Date: June 25, 2002.) Attachment 63	
	62 ^Y	R. L. Mills, A. Voigt, B. Dhandapani, J. He, "Synthesis and Spectroscopic Identification of Lithium Chloro Hydride," Materials Characterization, submitted. Attachment 62	
	61 ^V	R. L. Mills, B. Dhandapani, J. He, "Highly Stable Amorphous Silicon Hydride." Solar Energy Materials & Solar Cells, Vol. 80, No. 1, pp. 1-20. (Web Publication Date: April 15, 2002.) Attachment 61	
	60 `	R. L. Mills, J. Sankar, A. Voigt, J. He, B. Dhandapani, "Synthesis of HDLC Films from Solid Carbon," Journal of Material Science, submitted. (Web Publication Date: May 3, 2002.) Attachment 60	
	59 ⊀	R. Mills, P. Ray, R. M. Mayo, "The Potential for a Hydrogen Water-Plasma Laser," Applied Physics Letters, Vol. 82, No. 11, (2003), pp. 1679–1681. (Web Publication Date: July 11, 2002.) Attachment 59	
	58	R. L. Mills, "Classical Quantum Mechanics," Physics Essays, submitted. (Web Publication Date: May 23, 2002.) Attachment 58	

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Substitute for form 1449B/PTO				Complete if Known		
Substitute for form 14430/FTO				Application Number	09/669,877	
INI	FORMATION	DI	SCLOSURE	Filing Date	09/27/2000	
ST	TATEMENT B	BY A	APPLICANT	First Named Inventor	Mills .	
(use as many sheets as necessary)				Group Art Unit	1754	
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	57	R. L. Mills, P. Ray, "Spectroscopic Characterization of Stationary Inverted Lyman Populations and Free-Free and Bound-Free Emission of Lower-Energy State Hydride Ion Formed by a Catalytic Reaction of Atomic Hydrogen and Certain Group I Catalysts, Quantitative Spectroscopy and Radiative Transfer, No. 39, sciencedirect.com, April 17, (2003). Attachment 57	
	56	R. M. Mayo, R. Mills, "Direct Plasmadynamic Conversion of Plasma Thermal Power to Electricity for Microdistributed Power Applications," 40th Annual Power Sources Conference, Cherry Hill, NJ, June 10-13, (2002), pp. 1–4. (Web Publication Date: March 28, 2002.) Attachment 56	
	55 √	R. Mills, P. Ray, R. M. Mayo, "Chemically-Generated Stationary Inverted Lyman Population for a CW HI Laser," European J of Phys. D, submitted. (Web Publication Date: April 22, 2002.) Attachment 55 /	
	54	R. L. Mills, P. Ray, "Stationary Inverted Lyman Population Formed from Incandescently Heated Hydrogen Gas with Certain Catalysts," J. Phys. D, Applied Physics, Vol. 36, (2003), pp. 1504–1509. (Web Publication Date: March 20, 2002.) Attachment 54	
	53 🗸	R. Mills, "A Maxwellian Approach to Quantum Mechanics Explains the Nature of Free Electrons in Superfluid Helium," Physics of Fluids, submitted. (Web Publication Date: June 4, 2002.) Attachment 53	
	52 √	R. Mills and M. Nansteel, P. Ray, "Bright Hydrogen-Light Source due to a Resonant Energy Transfer with Strontium and Argon lons," New Journal of Physics, Vol. 4, (2002), pp. 70.1–70.28. (Web Publication Date: October, 2002, when it became available on the New Journal of Physics website.) Attachment 52	
	51 v	R. Mills, P. Ray, R. M. Mayo, "CW HI Laser Based on a Stationary Inverted Lyman Population Formed from Incandescently Heated Hydrogen Gas with Certain Group I Catalysts," IEEE Transactions on Plasma Science, Vol. 31, No. 2, (2003), pp. 236–247. (Web Publication Date: Feb. 4, 2002.) Attachment 51	7
	50 ✓	R. L. Mills, P. Ray, J. Dong, M. Nansteel, B. Dhandapani, J. He, "Spectral Emission of Fractional-Principal-Quantum-Energy-Level Atomic and Molecular Hydrogen," Vibrational Spectroscopy, Vol. 31, No. 2, (2003), pp. 195–213. Attachment 50	

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Journal and Recent Book Publications

- 97. R. L. Mills, P. Ray, B. Dhandapani, "Evidence of an Energy Transfer Reaction Between Atomic Hydrogen and Argon II or Helium II as the Source of Excessively Hot H Atoms in RF Plasmas," Contributions to Plasma Physics, submitted. (Web Publication Date: Sept. 26, 2003.)
- 96. J. Phillips, C.K. Chen, R. L. Mills, "Evidence of the Production of Hot Hydrogen Atoms in RF Plasmas by Catalytic Reactions Between Hydrogen and Oxygen Species," J. Phys. D., submitted. (Web Publication Date: Sept. 12, 2003.)
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- 94. R. L. Mills, "The Nature of the Chemical Bond Revisited and an Alternative Maxwellian Approach," Il Nuevo Cimento, submitted. (Web Publication Date: Aug. 6, 2003.)
- 93. R. L. Mills, P. Ray, M. Nansteel, J. He, X. Chen, A. Voigt, B. Dhandapani, "Energetic Catalyst-Hydrogen Plasma Reaction Forms a New State of Hydrogen," in preparation.
- 92. R. L. Mills, P. Ray, M. Nansteel, J. He, X. Chen, A. Voigt, B. Dhandapani, Luca Gamberale, "Energetic Catalyst-Hydrogen Plasma Reaction as a Potential New Energy Source," European Physical Journal D, submitted. (Web Publication Date: June 6, 2003.)
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- 89. R. Mills, P. C. Ray, R. M. Mayo, M. Nansteel, W. Good, P. Jansson, B. Dhandapani, J. He, "Hydrogen Plasmas Generated Using Certain Group I Catalysts Show Stationary Inverted Lyman Populations and Free-Free and Bound-Free Emission of Lower-Energy State Hydride," Fizika A, submitted.
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- 86. R. L. Mills, P. Ray, J. He, B. Dhandapani, M. Nansteel, "Novel Spectral Series from Helium-Hydrogen Evenson Microwave Cavity Plasmas that Matched Fractional-Principal-

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- 84. R. L. Mills, P. Ray, J. Dong, M. Nansteel, R. M. Mayo, B. Dhandapani, X. Chen, "Comparison of Balmer α Line Broadening and Power Balances of Helium-Hydrogen Plasma Sources," Jpn. J. Appl., submitted. (Web Publication Date: March 12, 2003.)
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- 82. R. Mills, J. Sankar, P. Ray, J. He, A. Voigt, B. Dhandapani, "Synthesis and Characterization of Diamond Films from MPCVD of an Energetic Argon-Hydrogen Plasma and Methane," Materials Science, submitted. (Web Publication Date: May 7, 2003.)
- 81. R. Mills, P. Ray, B. Dhandapani, W. Good, P. Jansson, M. Nansteel, J. He, A. Voigt, "Spectroscopic and NMR Identification of Novel Hydride Ions in Fractional Quantum Energy States Formed by an Exothermic Reaction of Atomic Hydrogen with Certain Catalysts," European Physical Journal: Applied Physics, submitted. (Web Publication Date: Feb. 21, 2003.)
- 80. R. L. Mills, "The Fallacy of Feynman's Argument on the Stability of the Hydrogen Atom According to Quantum Mechanics," Foundations of Phys., submitted. (*Web Publication Date: Jan. 27, 2003.*)
- 79. R. Mills, J. He, B. Dhandapani, P. Ray, "Comparison of Catalysts and Microwave Plasma Sources of Vibrational Spectral Emission of Fractional-Rydberg-State Hydrogen Molecular Ion," Canadian Journal of Physics, submitted.
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- 75. R. L. Mills, P. Ray, B. Dhandapani, J. He, "Novel Liquid-Nitrogen-Condensable Molecular Hydrogen Gas," Acta Physica Polonica A, submitted. (Web Publication Date: Oct. 29,

2002.)

- 74. R. L. Mills, P. C. Ray, R. M. Mayo, M. Nansteel, B. Dhandapani, J. Phillips, "Spectroscopic Study of Unique Line Broadening and Inversion in Low Pressure Microwave Generated Water Plasmas," Journal of Plasma Physics, submitted. (Web Publication Date: June 18, 2003.)
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- 72. R. L. Mills, M. Nansteel, P. C. Ray, "Bright Hydrogen-Light and Power Source due to a Resonant Energy Transfer with Strontium and Argon Ions," Vacuum, submitted.
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